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ABSTRACT

A study was conducted to develop a typological framework of college undergraduates based on students' educational orientations. The study focused on students' more specific views of the purpose of education, desired teaching-learning arrangement, and roles with faculty in academic decisionmaking. The Student Orientations Survey was administered to a sample of 3,628 undergraduates drawn from 12 colleges and universities across the U.S. Five distinct student learner profiles were identified: independent/adventurers, semi-independent, nondirected, semi-dependent, and dependent/traditionalists. Discussions centered on various implications for postsecondary institutions regarding the use of a typological scheme premised on student orientations and learning preferences. (SPG)

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Educational Orientations of College Students: A Typological Analysis

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Abstract

Previous research on student typological models has centered on undergraduates' general philosophies of higher education. This study focused on students' more specific views of the purposes of education, desired teaching-learning arrangements, and roles with faculty in academic decisionmaking. Undergraduates (N=3628) completed the Student Orientations Survey and orientation scale scores were used in a multidimensional typological analysis. Five distinct student learner profiles were identified; coefficients of group homogeneity and between-group F's supported the uniqueness of each group profile. Discussion centered on various implications for postsecondary institutions regarding the use of a typological scheme premised on student orientations and learning preferences.

Educational Orientations of College Students: A Typological Analysis

Although considerable research has been undertaken to describe college students in reference to intellective, personality, and background characteristics (Feldman and Newcomb, 1969), there has been relatively little examination of students' interest in different teaching-learning arrangements, desired roles with faculty in educational decisionmaking, and other attitudes central to the curricular-instructional arena. Moreover, the major effort towards developing a typological scheme of college students and subcultures, undertaken by Clark and Trow (Trow, 1962), has focused on classifying students according to their "general philosophy" of higher education. The Clark-Trow categorizations--Vocational, Academic, Collegiate, and Non-Conformist--have provided a research strategy for assessing students' general orientations to college; however, this framework does not center on more specific educational attitudes and learning mode preferences of students.

Research in the area of student educational views has become somewhat more prominent recently, particularly since many postsecondary institutions are experiencing difficult financial conditions. Additionally, enrollments of 18 to 22 year-old students have stabilized or declined at many colleges, heightening the concerns about maintaining an institutional vitality in the years ahead. Institutional vitality is often translated into attracting and retaining students, and many colleges are attempting to develop or modify academic programs to become more responsive to the students they wish to serve. Inherent in this "responsiveness" is the need to better understand what kinds of students are enrolled at an institution, and more specifically, the nature of their educational views and preferences.

The purpose of this study was to develop a typological framework of college undergraduates based on students' educational orientations. Research with the Student Orientations Survey (Morstain, 1973; 1976), an educational attitude inventory employed in this analysis, has principally focused on SOS scale score profiles of different groups of students. For example, students who had different patterns of scholastic aptitude (as measured by SAT scores) and students who had differing personality traits tended to have varying SOS profiles (Pemberton, 1974; Morstain, 1975). Other studies have reported that freshmen who withdrew from college and seniors who were dissatisfied with their academic experiences tended to have educational orientations which were incongruent with the institution's curricular-instructional ethos (Stark, 1975; Morstain, 1977a).

These studies have formed groups of students in post-hoc fashion (e.g., students who withdrew from college, students who maintained their enrollment), then comparisons of SOS profiles were done for the respective groups. However, no research has been undertaken to examine the general patterns of student educational orientations for the purpose of characterizing different student learner types.

This study is an attempt to develop such a typological framework by empirically identifying particular clusters or groups of learners such that each group has a unique overall pattern of educational attitudes. Finally, this paper will address certain implications regarding the nature and utility of a typological scheme premised on students' educational attitudes.

Methodology

Sample.

The Student Orientations Survey (Morstain, 1973; 1976),[1] described subsequently, was administered to a sample of undergraduates (N=3,628) drawn from 12 colleges and universities across the United States. These administrations were conducted in the context of institutional self-studies, and were also part of a cooperative effort to develop comparative norms for the SOS. The type of institution and the proportion of students in the overall sample from each type was as follows: two public universities (38%), two private universities (10%), three public four-year colleges (30%), and five private colleges (22%). These samples were representative of the full-time undergraduate enrollments at each institution; moreover, the proportional distribution of students in this study's sample, by type of institution, paralleled national enrollment data of full-time undergraduates in these four types of institutions (National Center for Educational Statistics, 1974).

Instrument.

Six scales in the SOS which tap attitudes about preferred teaching-learning arrangements, the purposes of a college education, and student-faculty roles in academic decisionmaking were used in this study.[2] Each SOS scale is composed of eight Likert-type items, and estimates of scale reliability range from .72 to .82 (coefficient alpha) and .70 to .80 (test-retest) as reported elsewhere (Morstain, 1976). Brief scale descriptions follow: Achievement: (Ach): taps a view of the purpose of education which is practical and goal-oriented, gauging various aspects of the college experience in terms of their future usefulness; Assignment Learning (AL): relates to a

preference for structured teaching-learning arrangements which emphasize formal courses and specific, clear-cut assignments; Assessment: (As): emphasizes relationships with faculty based on formal evaluations and grades; Inquiry (Inq): a view of education which stresses the value of exploring one's interests, the perception of relationships between various fields, a belief that "learning is its own reward"; Independent Study: (IS): taps a preference for informal, less structured courses in which students set their own goals and standards and pursue their own interests with faculty supervision; Interaction: (Int): reflects a desire that faculty and students share in the planning of courses, programs, and academic requirements.

To better understand the results of the multivariate typological analysis which follow, some additional comments on the SOS scales are in order. Previous research with the student sample used in this study (Morstain, 1976) has shown that there appear to be two underlying dimensions of these SOS scales. In terms of scale intercorrelations, Ach, Al, As have a strong positive relationship (average $\underline{r}$ = .52) as do Inq, IS, and Int (average $\underline{r}$ = .40). Moreover, there is a moderate negative relationship between scales in the two sets (average $\underline{r}$ = -.28). A factor analysis of SOS scales yielded two principal components which after rotation to a varimax criterion accounted for 48 percent of the matrix variance. The first component was highlighted by high positive loadings of the SOS scales Achievement, Assignment Learning, and Assessment. Given this pattern, the first component was characterized as a "preparatory" dimension on which students may differ. That is, some students may view a college education primarily in terms of a pragmatic/career-related purpose--gaining practical skills and knowledge (Ach). Having more formal and structured learning arrangements (AL) is a "process" perhaps thought to best facilitate the acquisition of knowledge and skills deemed important by faculty. Moreover, valuing the

assessment of student work by faculty authorities and attaching importance to grades and/or competition (As) is an orientation not incongruent with a preparatory view of educational purpose and process.

The second component of the SOS was characterized as an "exploratory" dimension. Given the pattern of high loadings of the scales Inquiry, Independent Study, and Interaction, this component emphasized a view of the purpose of education which stressed "learning as its own reward," and an interest in studying the relationships between fields (Inq). Moreover, a preference for more informal, individually-tailored learning processes and arrangements (IS) and a strong interest in having a co-equal role with faculty in educational decision-making (Int) were the other orientations which loaded high on this dimension.

Procedures.

To determine what clusters or types of student learners could be identified based on students' overall patterns of SOS scale scores, the cluster/typological program OTYPE of the BC TRY statistical package was used (Tryon and Bailey, 1970). In effect, OTYPE empirically develops groupings such that there is a similarity of scale score profiles for members of a given group while the overall group profiles or patterns are dissimilar from each other in multidimensional space.[3] Prior to the cluster/typological analysis, raw SOS scale scores (range 0 to 24) were transformed to standard scores ($\bar{X}$ = 50.0); SD = 10.0).

As suggested by Field and Schoenfeldt (1975), a discriminant analysis was performed to assess the statistical accuracy of the assignment of each student to a given group created by the OTYPE cluster analysis. Additionally, estimates of group homogeneity, H (Tryon and Bailey, 1970), were calculated as were between-group Fs to examine whether there were significant differences between OTYPE groups.

Each derived group's mean SOS scores were plotted to examine the nature of the orientation profiles in comparison to the other student learner groups. Finally, an analysis of selected characteristics of each group (e.g., type of institution, sex, major, year in school) was performed to assess the similarities and differences between members of each typolcgical group.

Results

The OTYPE analysis yielded five typological groups, and the Ns and estimates of group homogeneity (H) for each group are presented in Table 1.

(Insert Table 1 about here.)

Each OTYPE group appeared to be relatively homogenous as indicated by the H values in Table 1. Moreover, high classification rates and between-group Fs obtained from the discriminant analysis indicated that the five OTYPE groups were significantly different from each other in terms of their overall scale profiles as shown in Table 2.

(Insert Table 2 about here.)

In terms of scale score patterns, group 1 was characterized by having the lowest scores of all groups on Ach, AL, As and the highest scores on Inq, IS, Int. Group 2 tended to have high scores on the latter scales (approximately +½ S.D. above the sample mean), but scores for Ach, AL, As generally fluctuated around the means for the total sample. Two other groups generally had profiles the reverse of groups 1 and 2. Group 5 had the lowest scores on Inq, IS, Int and relatively high scores on Ach, AL, As. Group 4 also had high scores on these latter scales, while their scores for Inq, IS, Int approximated the overall sample mean on all six SOS scales. Group 3 had a relatively

undifferentiated profile in that all scores were close to the sample means.

(Insert Figure 1 about here.)

The five student learner groups appeared to have distinctive educational orientation profiles, and further analysis of these profiles was done in reference to the two underlying dimensions of the SOS noted previously. The student learner groups were viewed in relation to two dimensions on which students can vary: (1) an "exploratory" orientation to educational purpose and process--the extent to which students desire to engage in intellectual inquiry in different (yet interrelated) fields, emphasizing self-directed learning arrangements, and having a substantial "coequal" role with faculty in academic decisions which affect students; and (2) a general "preparatory" orientation to purpose and process--the extent to which students view education as obtaining knowledge and skills deemed important by faculty in a particular career/vocational area, desiring relatively structured learning arrangements, and valuing grades and evaluations by faculty, the expert authorities in their respective fields.

Each group's standardized scores on the "preparatory" scales (Ach, AL, As) were summed and divided by three to obtain an average score on this general dimension. This was similarly done for the "exploratory" scales (Inq, IS, Int). The placement of the learner groups is portrayed in Figure 2 by representing the average standardized score on these two dimensions.

(Insert Figure 2 about here.)

In the upper left quadrant of Figure 2, group 1 students have a relatively strong "exploratory" view of education and correspondingly de-emphasize a "preparatory" orientation to college. Given the full scale score profile shown in

Figure 1, students in this group may be characterized as independent learners or "adventurers"--wanting to explore ideas in different fields; preferring independent study/contract learning approaches, and having an active role in educational decisions which affect them. Group 2 students share some of the attitudes of group 1 in the exploratory domain (high scores on Inq, IS, Int), but do not de-value the preparatory orientations to any considerable degree (i.e., their scores were only slightly below the overall sample average on the Ach, AL, As scales). These group 2 students may be seen as "semi-independent" learners, willing to pursue a more active role in their education on occasion, yet also receptive to more structured learning arrangements and purposes.

Group 3 students may be "non-directed" learners in that their scale score profile (Figure 1) is relatively flat and undifferentiated. These students do not appear to place high emphasis on either the preparatory or exploratory orientations to educational purpose and process. Group 4 students, however, tend to emphasize the preparatory view of education (having relatively high scores on Ach, AL, As), yet more exploratory orientations are not rejected by them (scores on Inq, IS, Int are near the sample average). Group 5 may be seen as dependent learners--the most "traditional" in their educational views. These students desire more formal and structured teaching-learning arrangements, see education in relatively pragmatic/career terms, and by virtue of having the lowest scores of all groups on the exploratory scales, appear to defer to faculty guidance and authority in shaping the nature of their educational experiences.

The next phase of the study compared the student groups on certain demographic characteristics reported by students at the time of the SOS administrations. These group characteristics--type of school control (public or private), sex, year in school, academic major--are presented in Table 3.

In the total sample (N=3628), approximately two-thirds of all students were enrolled at publicly controlled institutions. This varied slightly across student groups, ranging from 78% in group 1 ("independent/adventures"), and 74% in group 5 ("dependent/traditionalists"), to 58% in group 4 ("semi-dependent" learners). It appeared, then, that no student group exhibited substantial variation from the overall sample in terms of attendance at a public or private institution. Regarding sex distributions, in the total sample 48% were males and 52% were females. This proportion did not change considerably across learner groups. Thus, students in any group were generally equally likely to be male or female.

This was not the case with student's year in school. In the total sample, 42% were freshmen and 34% were seniors. This ranged from 29% freshmen in group 1 ("independent/adventurers") to 56% freshmen in group 4 ("semi-dependent" learners). Conversely, almost 50% of the group 1 students were seniors, dropping to a low of 21% in group 4. Overall, a moderate gradation of class standing was observed across groups--of those students who were categorized as semi-dependent learners (group 4) or dependent/traditionalists (group 5), the majority were underclassmen, particularly freshmen. Moreover, relatively more students categorized as independent/adventurers and semi-independent learners (groups 1 and 2) were upperclassmen, principally seniors.

An analysis of broad academic major areas of students did not yield substantive differences between groups. There was only modest variation in the proportion of students in each learner type who were enrolled in professional/applied programs--55% in group 5 (dependent/traditionalists) compared to 44% in group 1 (independent/adventurers). Moreover, only slightly more students in this latter group and in group 2 (semi-independent) were majoring in humanities and fine arts compared to students categorized as dependent/traditionalists

(group 5). Lastly, the highest proportion of students in any group who were "undecided" as to their major area was that of group 3 (nondirected learners), the group which also had the least differentiated educational orientation profile.

Discussion

Previous research on student typological schemes, highlighted by the work of Clark and Trow (Trow, 1962), has centered on classifications based on students' general philosophies about higher education. Although useful from a descriptive standpoint in providing a rather broad characterization of students, this classification does not focus on more specific educational orientations and learning preferences of students. In this study, drawing upon a relatively large data base of undergraduates' responses to the Student Orientations Survey, a multivariate cluster analysis was performed for the purpose of developing a preliminary typology based on students' educational views and preferences.

Five different groups were derived from the OTYPE cluster analysis, each with a relatively unique profile across the six SOS scales. A discriminant analysis yielded high classification rates, and between-group *F*s indicated that all groups were significantly different from each other based on orientation profiles.

The nature of the group orientation profiles had much in common with the underlying exploratory and preparatory dimensions of the SOS scales. For example, group 1 ("independent/adventurers") had high scores on the three exploratory scales and low scores on the preparatory scales. In effect, the groups could be conceptualized on an exploratory-preparatory continuum--moving from group 1 through group 3 ("non-directed"), whose SOS profile was relatively undifferentiated, and continuing to group 5 ("dependent/traditionalists"), whose

profile exhibited high scores on the preparatory scales and low scores on the exploratory scales.

However, being able to classify students into different groups does not mean that the typological scheme necessarily has high validity. The names associated with each group are the authors', and may or may not have an empirical referent. Moreover, since other samples of students may have different patterns of SOS scores, the kinds of groups derived from a typological analysis may be different from the ones obtained here. To assess the validity of this preliminary typological scheme, certain correlational designs involving instruments which tap different constructs as well as analyses of the experiences, educational/career choices, and outcomes for different kinds of students would be necessary.

For example, the relationship of students' general orientation to college (as would be assessed by the Clark-Trow scheme) and learner "type" as portrayed here is difficult to ascertain at this juncture. Group 1 students--independent learners or adventurers--may share similar attributes with the Clark-Trow "Academic" student, and group 5 students--the dependent learners or traditionalists--may have some relationship to the Clark-Trow "Vocational" student. The Clark-Trow scheme and the learner typology presented here, however, emanate from different purposes (describing students' general orientation to college vs. specific orientations in the curricular-instructional arena). Nevertheless, future research could examine student preferences on both assessment devices to help illuminate differences and similarities in learner group memberships between the two typological frameworks. The nature of the learner groups identified here also bears further study from a "field-dependent/field-independent" model discussed by Witkin et al. (1977) in relation to students' cognitive styles. Perhaps field-dependent individuals manifest this phenomenon in educational endeavor

with attitudes similar to those held by group 5 (dependent/traditionalist), while field-independent individuals may have educational attitudes paralleling those of group 1 students (independent/adventurers).

If the validity of a typological framework based on student educational orientations can be documented, it may be quite useful to faculty and program developers at colleges and universities. For example, faculty may find it desirable to know the prevalence of different kinds of student learners who are currently enrolled--at either the institutional or academic program level. Since the student typology is based directly on educational orientations and learning preferences, information about the kinds of student learners may be valuable in developing or modifying certain curricular-instructional programs and policies to better meet the needs and interests of students. At the course level, a particular instructor may be able to develop a range of instructional alternatives and options to fit the kinds of student learners who are enrolled or those planning to enroll.

Moreover, prospective applicants to the institution may benefit from knowing more about the kinds of students already enrolled at the college or in particular programs. This is one aspect of a growing concern about "better information for better choice." In the context of their interests and plans, students may also find it helpful to discuss their educational orientation profile with an advisor, especially if the advisor has some awareness of the instructional "process" and ethos of different colleges and programs. Furthermore, without presuming that a relatively undifferentiated profile is undesirable (recall the pattern of SOS scores for students in group 3), discussing one's educational orientation profile may serve as a springboard for students to consider what kinds of educational goals and teaching-learning arrangements they think would be desirable. Especially at the point of making the transition from high school

to college, a student may find it quite valuable to think about "one's own education" and the role one wishes to have in the educational process.

In other areas, many questions appear worthy of further research. Is it possible to fit educational programs (which may have differing instructional "purpose and process" modes) with the educational orientation profiles of different student learners? What would be the various outcomes--such as achievement or satisfaction with one's program--for different matching arrangements? For example, group 1 students ("independent/adventurers") appear to prefer considerably more autonomy in their academic program than do group 5 students ("dependent/traditionalists"). Perhaps the former type of student would benefit from programs in which students are encouraged to explore their own interests and the relationships between fields, develop supervised independent study and "contract learning" arrangements, and have more of a co-equal role with faculty in academic decisions which affect their program. What would be the outcomes and personal experiences of students who were participating in such a program as compared to the outcomes for other "independent/adventurers" who were in a very structured, traditional course-oriented program?

However, it is important to note that a presumption of the desirability of a "close fit" between a student's orientation and the ethos of an institution or program may itself be questioned. That is, Nevitt Sanford (1967) believes that individuals will tend to remain in a state of homeostasis unless they are challenged by situations which require new modes of thinking and behaving. Perhaps a "close fit" situation may be satisfying to a student, although the stimulus for change and development may be minimal. Some would advance, then, that students should be exposed to a wide range of educational "purpose and process" alternatives rather than attempting to maximize at all times the congruence of student orientation and program ethos.

Thus the question may be one of assessing the relative fit and the relative outcomes for different student learners in varying kinds of programs and settings. Theoretical bases for these investigations would center on Sanford's "challenge and response" model (1967), and more generally, person-environment interaction frameworks (Walsh, 1973). Preliminary efforts in the latter area which have used the SOS have shown that the degree of incongruence in student educational orientations with the educational environment is associated with attrition-withdrawal, student dissatisfaction, and course evaluation ratings (Stark, 1975); Morstain, 1977a, b). These studies have categorized students "after-the-fact" (e.g., students who were dissatisfied vs. students who were very satisfied) in comparing SOS profiles. If one were to characterize students in a learner typology, at the point of entry to the institution, predictive studies of student outcomes may be facilitated by use of a learner typology scheme. With a person-environment research framework, investigations could center on student choice (and changes) in academic major, satisfaction with college, and certain cognitive and affective outcomes for different kinds of student learners.

In sum, additional research on student orientations and types of student learners would be valuable--for both the long-standing concern of assessing the impacts and outcomes of college for different kinds of students, and for the growing question of institutional "adaptiveness" to the needs and interests of student learners. Beyond the concern of attracting and retaining students, having a better picture of the kinds of student learners and their educational orientations would appear to be a necessary first step if colleges and universities wish to be responsive to the clientele they serve.

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Footnotes

1. Much of the early developmental work with the SOS was done with Dr. Richard M. Gray, now at World College West.
2. There are four additional scales in the SOS inventory which assess student attitudes in the co-curricular domain (e.g., relationships with peers, involvement in socio-political issues). These scales were not used for the purpose of the study was to develop a typology based on attitudes central to the curricular-instructional domain.
3. OTYPE assigns individuals that have scores on k dimensions (scales) to clusters or "types" such that all members of a particular type have generally similar profiles across the k dimensions. The assignment of individuals is based on Euclidian distances (D values) between the individuals in the multidimensional space of k vectors (in this case, SOS scales). The criteria for OTYPE analyses are: (a) maximizing within-group homogeneity (i.e., "cohesiveness" or similarity of group member profiles) and (b) maximizing Euclidian distance space between groups (i.e., "distinctiveness" of groups from each other). For a full description of this algorithm and the BC TRY statistical program, see Tryon and Bailey (1970).
4. The number of institutions in each type was judged inadequate for this analysis; thus, the type of control of the institution was used (i.e., public or private).

TABLE 1

DISTRIBUTION OF STUDENTS TO OTYPE GROUPS AND MEASURES OF GROUP HOMOGENEITY (*H*)

Group	*N*	*H*
1	496	.79
2	628	.84
3	1220	.84
4	710	.86
5	575	.83

Note: *H* values have a possible range of .00 (no similarity of individual profiles within a group) to 1.00 (total similarity of individual profiles).

TABLE 2

BETWEEN-GROUP F MATRIX AND CLASSIFICATION RATES
FROM DISCRIMINANT ANALYSIS FOR STUDENT LEARNER GROUPS

Classification Rate		Between-Group F Values				
		Group 1	Group 2	Group 3	Group 4	Group 5
Group 1	(87%)	-	170.5	321.5	568.0	747.3
Group 2	(79%)	-	-	191.8	176.2	409.1
Group 3	(69%)	-	-	-	249.8	223.7
Group 4	(84%)	-	-	-	-	137.7
Group 5	(89%)	-	-	-	-	-

Note: all between-group F values significant at $p < .01$.

TABLE 3

DEMOGRAPHIC CHARACTERISTICS OF FIVE
STUDENT LEARNER GROUPS AND TOTAL SAMPLE

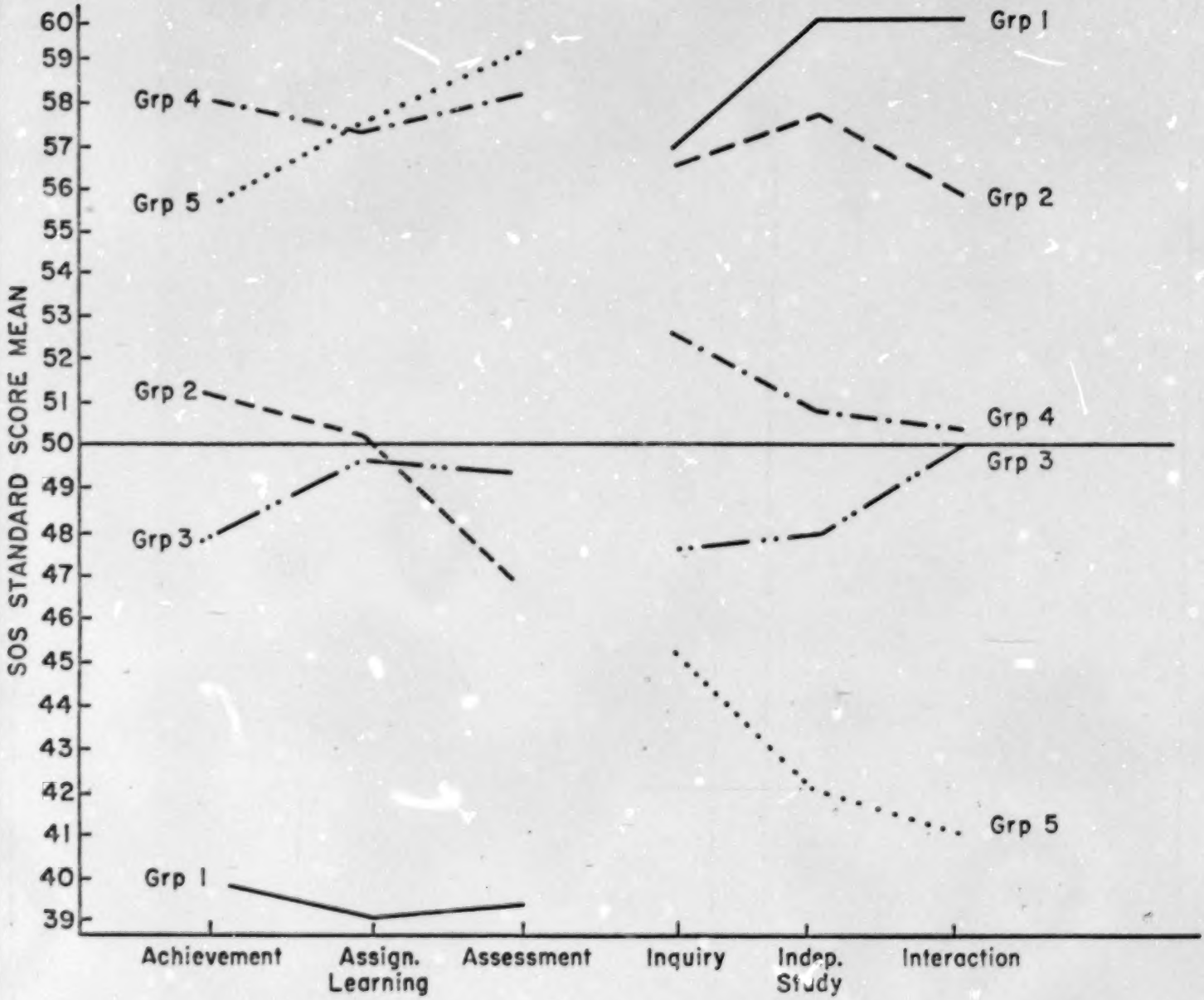
Variable		Total Sample (N=3628)	Group 1 "Independent/ adventurers" (N=496)	Group 2 "Semi- independent" (N=627)	Group 3 "Non- directed (N=1220)	Group 4 "Semi- dependent" (N=710)	Group 5 "Dependent/ traditionalists" (N=575)
Institutional Control:	Public	68%	78%	69%	65%	58%	74%
	Private	32	22	31	35	42	26
Sex:	Male	48	48	49	48	49	47
	Female	52	52	51	52	51	53
Year:	Freshman	42	29	34	39	56	51
	Sophomore	11	10	12	12	9	11
	Junior	13	11	16	12	14	11
	Senior	34	49	38	38	21	27
Major:	Humanities/Fine Arts	10	14	12	9	9	6
	Social Science	12	13	14	9	14	10
	Natural/Physical Sci.	6	5	5	4	7	8
	Professional/Applied	47	44	45	44	48	52
	Undecided	26	24	23	34	22	24

Note: percentages are read down for each demographic variable.

Figure Captions

Figure 1 SOS Standard Score Means for Five Student Learner Groups

Figure 2 Average Scores on SOS Scales Comprising Preparatory and Exploratory Dimensions for Five Student Learner Groups


SOS STANDARD SCORE MEAN
60
59
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42
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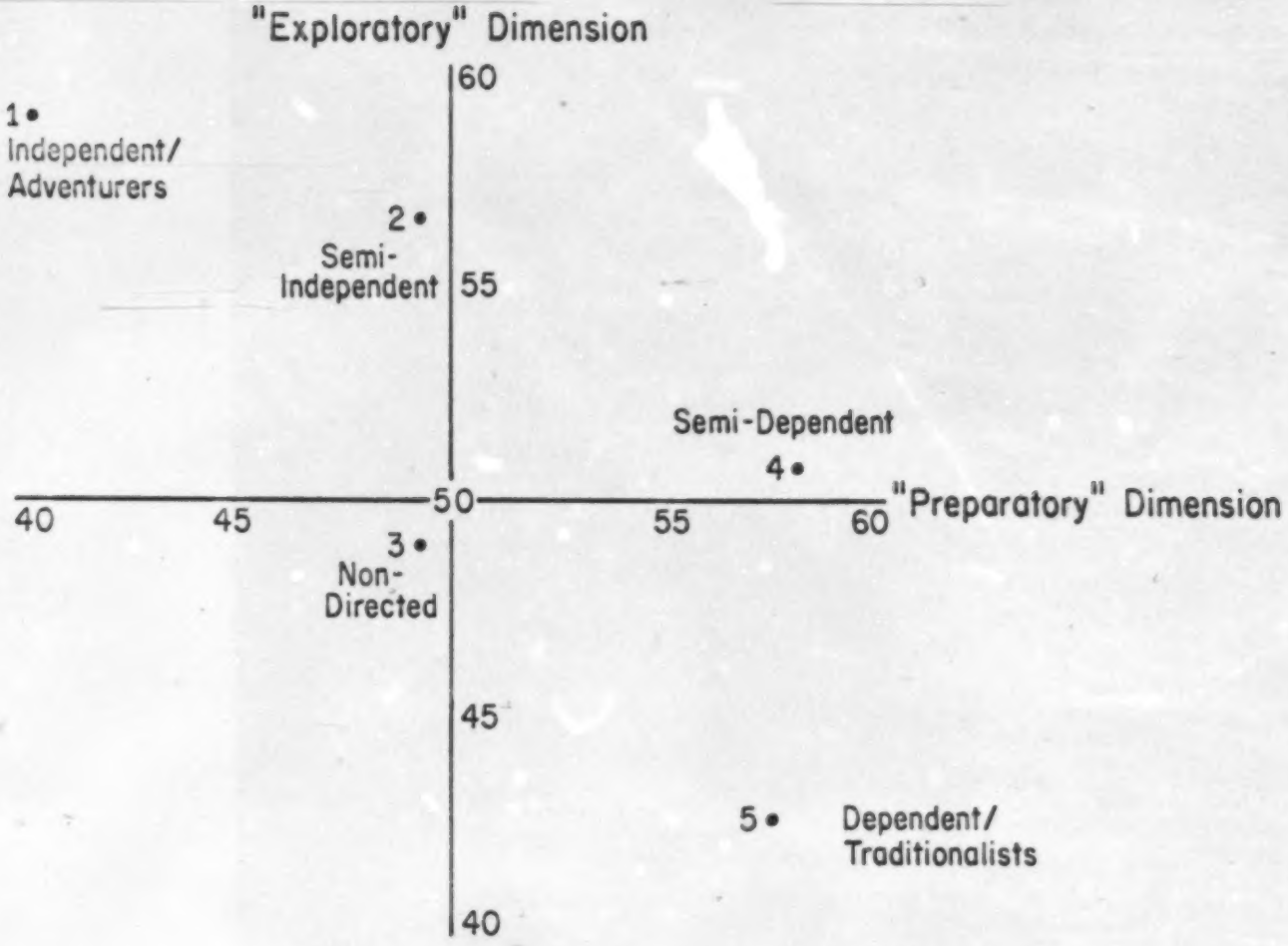
Grp 3
Grp 4
Grp 5
Achievement
Assign. Learning
Assessment
Inquiry
Indep. Study
Interaction



Note: Placement of groups is in standard score units based on overall sample $\bar{x}$ (50.0)